REMARKS

The Official Action mailed July 30, 2008, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on March 16, 2001; January 7, 2005; and March 23, 2006.

Claims 2-6 and 8-12 were pending in the present application prior to the above amendment. Claims 4-6, 9, 10 and 12 have been canceled without prejudice or disclaimer; and claims 2, 3, 8 and 11 have been amended to better recite the features of the present invention. Accordingly, claims 2, 3, 8 and 11 are now pending in the present application, of which claims 2 and 11 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 4 of the Official Action rejects claims 2-6 and 8-12 as obvious based on the combination of U.S. Patent No. 6,081,228 to Leimer and U.S. Patent No. 5,572,516 to Miya. The Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally

available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. For example, independent claim has been amended to recite a radio digital signal receiver for receiving a broadcast signal obtained by multiplexing an 8PSK-modulating signal, a QPSK-modulating signal and a BPSK-modulating signal, the receiver comprising: means for individually detecting a received C/N (5) and a decoding error rate of a decoded digital signal (7); decision means (8) for estimating and deciding phase noise characteristics of a local oscillator in an outdoor unit connected to a receiving terminal of the radio digital signal receiver on the basis of a decoding error rate, in a burst symbol reception mode for regenerating a carrier from only the received BPSK-modulating signal the detected decoding error rate being one detected when the received C/N exceeds a first predetermined threshold value; where if the detected decoding error rate is equal to or less than a second predetermined threshold, the phase noise characteristics are determined to be fairly good, while if the detected decoding error rate exceeds the second predetermined threshold, the phase noise characteristics are determined not to be good; means (8) for selecting and switching characteristics of a carrier regenerative loop (1, 3, 6, 9, 10, 2) on the basis of the estimated phase noise characteristics of the local oscillator in the outdoor unit, wherein the means for selecting and switching a carrier regenerative loop characteristic is adapted to operate so that (i) if it is determined by the decision means that the phase noise characteristics are fairly good, a carrier regenerative loop characteristic corresponding to a critical CNR where a noise bandwidth is made narrow is selected and (ii) if it is determined by the decision means that the phase noise

characteristics are not good, a carrier regenerative loop characteristic corresponding to a critical CNR where the noise bandwidth is made large is selected; and means (8) for shifting the operation of the receiver from the burst symbol reception mode to a continuation reception mode after selecting and switching the carrier regenerative loop characteristic, the continuation reception mode allowing a carrier to be regenerated one by another from respective ones of the received 8PSK-modulating signal QPSK-modulating signal and BPSK-modulating signal. For the reasons provided below, Leimer and Miya, either alone or in combination, do not teach or suggest the above-referenced features of the present invention.

(i) The present invention is directed to a radio digital signal receiver for receiving a broadcast signal obtained by multiplexing an 8PSK-modulating signal, a QPSK-modulating signal and a BPSK-modulating signal. Leimer and Miya do not teach or suggest the above-referenced features.

(ii) The radio digital receiver of the present invention operates in two reception modes, that is a burst symbol reception mode and a continuation reception mode.

(iii) The burst symbol reception mode allows a carrier to be regenerated from only the received BPSK-modulating signal, and the continuation reception mode allows a carrier to be regenerated one by another from respective ones of the received 8PSK-modulating, QPSK-modulating and BPSK-modulating signals.

Leimer and Miya do not teach or suggest using two reception modes, that is, a burst symbol reception mode and a continuation reception mode.

(iv) In the present invention, phase noise characteristics of a local oscillator in an outdoor unit are estimated. Leimer and Miya do not teach or suggest these features.

(v) In the present invention, a carrier regenerative loop characteristic is selected and switched so as to have either a critical CNR where a noise bandwidth is made narrow or a critical CNR where a noise bandwidth is made large, on the basis of the quality of the estimated phase noise characteristics.

Specifically, the carrier regenerative loop characteristic is set at either a critical CNR (e.g., a graph *a* shown in Figure 5), where the noise bandwidth is made narrow; or a critical CNR (e.g., a graph *c* shown in Figure 5), where the noise bandwidth is made large. Here, it is to be noted that the critical CNR is a particular physical measure which is defined, for example, at page 6, lines 1-4, in the present specification as follows: "Note that what is meant by the critical CNR as shown in Figure 5 and Figure 6 is the critical value where the error rate after a trellis code is decoded is 2×10^{-4} and which, after the Reed-Solomon is decoded, becomes error-free."

Indeed, in Leimer, several graphs for phase noise intensity, RMS phase error and C/N_0 are shown in Figures 2 to 7. However, these graphs are irrelevant to a critical CNR as discussed in the present invention.

If Leimer were to use a "critical CNR," which is a particular physical measurement as described above, such physical measurement would need to be defined in the specification of Leimer. However, no such definition is provided in Leimer. Miya does not cure these deficiencies in Leimer.

(vi) In the present invention, after selecting and switching the carrier regenerative loop characteristic, the operation of the received is shifted from the burst symbol reception mode to the continuation reception mode. Leimer and Miya do not teach or suggest using two reception modes, that is, a burst symbol reception mode and a continuation reception mode.

Therefore, the Applicant respectfully submits that Leimer and Miya, either alone or in combination, do not teach or suggest all the features of the amended independent claims.

Since Leimer and Miya do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Further, it is noted that the claims in the copending European application are substantially similar to those of the present application and were recently considered to be allowable. Therefore, the Applicant respectfully submits that the allowability of the claims in the European application is a further indication of the patentability of the present claims.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Eric J. Robinson
Reg. No. 38,285

Robinson Intellectual Property Law Office, P.C.
PMB 955
21010 Southbank Street
Potomac Falls, Virginia 20165
(571) 434-6789